

Using AAC Media To Improve Dynamics Ability In Music Learning For Autistic Children

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ABSTRACT

This study aims to improve the ability of dynamics musical skills of autistic student using Augmentative and alternative communication (AAC) media. Augmentative and alternative communication (AAC) interventions have been shown to improve both communication and learning skills in children and youth with autism spectrum disorders and other developmental disabilities. There are many strategies educators use to aid a child to communicate. Visual aides have been used successfully in helping children with autism communicate. A picture system called AAC Media allows teachers to make pictures to help students on the spectrum communicate. The method that being used in this study is experimental method with single subject research approach and using the design of A–B pattern. Data collection technique that being used are observation and documentation. And data analysis technique that being used is visual analysis in condition. The results of this research indicate that musical dynamic skills in music subject could be improved by using AAC media. The use of AAC media brings positive impact towards autistic students skills in musical dynamic. Therefore, teachers can apply the using of AAC media on music subject activities in school.

Keywords: AAC Media; Dynamic ability; Autistic Student

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INTRODUCTION

Autistic students have a prominent ability in the visual field. In learning for autistic students, another problem that arises is limited communication between teachers and students. All of this has become a very fundamental problem. Improved proficiency in communication by using images or other visual aids to help them in remembering and understanding is absolutely essential to develop. Some theories may seem exaggerated, but the consideration which is considered old can still be the basis for thinking. As one example Kissinger and Worley (2008) suggest that music can be used as a channel for communication as an improvement for therapeutic or pedagogic reasons especially for children with developmental constraints. Especially for children with autism, music offers an alternative potential for communication channels. A number of relevant researches explain that music has tremendous benefits not only for enhancing the communication skills or other skills of autistic children but can also serve as an intervention, both social intervention and behavioral intervention (Kate Simpson and Deeken, 2011).

One of the lessons learned in children with autism is music learning. Teaching the art of music to autistic students is not easy, lack of methods and media causes autistic students are not easy in following the learning. Another difficulty that appears is because the constraints and communication of teachers are very difficult to teach with the usual approach, especially many music teachers in the school is a class teacher who is not a musical art background and vice versa. Many music art teachers who are in the field less understanding of autistic students in learning. This becomes a problem not only in the field of music art learning and even other subjects. In learning activities of music art for students with special needs, teachers are required to modify learning tools, ranging from learning planning, learning objectives, materials to be taught, methods, media and evaluation used in learning activities. The selection of appropriate learning methods and media can make students more interested in the lessons that will be taught by the teacher. So, that is what conveyed by the teacher is well absorbed and can help students to have a good knowledge of music art. It can facilitate in playing musical instruments. Musical instruments used variety types, such as from piano instruments, keyboards, drums, or guitars can be used in music art learning for autistic students. However, the use of keyboard instruments is easier to use than piano because the keys are much lighter when pressed than the piano, given that autistic students generally have obstacles in their motor skill. The keyboard has the ability to play the rhythm with a variety of variations so that students can choose a rhythm that is liked and not monotonous. The keyboard also has a metronome so there is no need to use a separate metronome when the autistic student learns the beat.

The dynamics of music is an important part of music learning. The dynamics of music are added in a song or piece of work to express how a person feels who plays or creates the song. Dynamics deals with other musical elements, such as tempo, which is also part of the musical expression. How autistic students can express their feelings when playing a song so they can use the right dynamics. By playing the dynamics of music, students can recognize the various expressions in

a song.

To further facilitate the process of understanding, then for autistic students who have a visual oriented learning style, the development of augmentative and alternative communication systems (AAC) is required. This system is also known as AAC (Augmentative and Alternative Communication) in line delivered by McCormick & Shane in Noel Kok Hwee Chia (2009). Alternative communication is a techniques that replace oral communication for individuals who experience barriers in speech or are unable to communicate through language. While augmentative communication is the rules and tools / systems that can improve the ability of verbal communication in the reality of everyday life (Mustonen, Locke, Reice, Solbrack, and Lingren, 1991). Therefore, AAC media is expected to be used in improving students' autistic musical ability, especially dynamics, either in delivering lesson materials or in daily music playing activities. Forms of AAC media of various kinds both formal have been made such as PECS, Compic and so on also made their own. The functionality of an individual's communication should be evaluated based on actual outcomes in response to the demands of the daily environment (Light:1989).

PURPOSE OF RESEARCH

This research has theoretical benefit, that is to be expected with this research in order to increase knowledge of educator and learner and society in the case of AAC media usage in improving autistic student dynamics ability. As well as having practical benefits, there are: 1) For schools, to be used as input materials in improving the quality of teaching teachers, especially in music art learning for autistic students. 2) For teachers, to provide information and references in the application of AAC media on music learning activities at school. 3) For further researchers, to add new insights as well as a means of learning in integrating knowledge and skills about increasing the potential that exists in autistic students especially in music art learning especially dynamics.

RESEARCH METHODS

The research method used in this research is experimental method. The experimental method in this study aims to obtain the necessary data by looking at the results or outcome of a treatment in the use of AAC media in improving the ability of basic dynamics in music learning of autistic students. The experimental method used in this research using Single Subject Research approach (research with single subject) or commonly abbreviated as SSR. SSR is a research for a single subject to a specific behavior. SSR is an integral part of behavioral analysis. SSR refers to a research strategy developed to document changes.

The technique of collecting data in this research is observation and documentation. Data analysis in experimental research with single subject generally use simple descriptive statistics. There are two stages based on A-B design in Single Subject Research, there are baseline condition stage (A) and intervention condition stage (B). The baseline stage symbolized by the letter A is an initial condition in the learning of music art. Measurements at this stage is done by looking at the ability to learn music art of autistic students using the

instruments that have been made and calculated score. This stage is done in five sessions with 45 minutes duration for each meeting. The intervention stage symbolized by the letter B is a step done to determine the condition data of the basic dynamics ability of autistic students in learning the art of music after given action or intervention. Interventions conducted are the use of AAC media in learning the basic dynamics of music and calculated the score in understanding the basic dynamics of music using instruments that have been made. This stage is carried out for seven sessions with the duration of each intervention session that is 10 to 15 minutes.

The analytical method used is commonly called visual inspection, which is an analysis performed by observing data that has been displayed in the graph directly. An important component in the visual inspection analysis method is the length of the condition that amount of data per condition, the level of stability and change of data, and the tendency of the chart direction. While the components analyzed include the length of the condition, estimation of direction tendency, stability tendency, data traces, stability and range levels, and level of change.

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RESULTS AND DISCUSSION

Based on research that has been done, researchers described the data of research to see how far the influence of intervention provided through the use of AAC Media media to improve the ability of basic dynamics in children's music arts learning.

Subjects are 20-year-old non-verbal autistic students attending music art lessons at school. Subjects carry out the learning of music art using a keyboard instrument. Because the subject's ability is still very basic, then the learning materials of music art that are taught on the subject is basic as well. The subject is still focused on the use of the finger followed by playing notation, tempo, and basic dynamics. Subjects are able to follow most of the teacher's instructions but there are still constraints on the motor. Subjects have a rash nature especially if already know what activities are ordered.

In the implementation of the stage of the intervention condition (B), the subject has difficulty in understanding the word 'soft' from the soft dynamics so that the word 'soft' is replaced with the word 'slow' during the execution of the stage of intervention condition (B). To select an AAC Media card to match the subject's favorite object, the ball. AAC Media Card representing the harsh dynamics is a golf ball card and AAC Media card representing soft dynamics is a toy ball photos made of cloth. Subjects will play fast tempos if using hard dynamics and slow tempo if using soft dynamics.

The first step done by researchers in collecting data of this research is by

observation. The purpose of this observation is to measure and collect data about the ability of dynamics in the learning of autistic children's music art. Observation is done by observing and filling the instruments and documenting the learning process of music art in the classroom.

At the stage of baseline condition (A) the subject has not been given intervention. Measurement and data collection of behavioral targets at this stage is conducted in five sessions with a duration of each 90 minutes

The score obtained by the subject at this stage is shown in the following table.

No	Question	Session					Number
		1	2	3	4	5	
1.	Loud dynamics	1	1	1	1	1	5
2.	Soft dynamics	1	1	1	1	1	5
3.	Type of dynamics	1	1	1	1	1	5
4.	Suppressing with strong dynamics	1	1	1	2	2	5
5.	Suppress with soft dynamics	1	1	1	1	1	5
6.	Playing songs with loud dynamics	1	1	1	1	1	5
7.	Playing songs with soft dynamics	1	1	1	1	1	5

Tabel 1. Obtaining Score Stage Conditions *Baseline (A)*

A score of 1 is given if the subject is unable to execute the command. A score of 2 is given if the subject is able to execute the command with help. A score 3 is given when subjects are able to execute commands without help (self). Description of each score is valid at the stage of baseline condition (A) and intervention (B).

The next step taken to follow up on the results from the baseline (A) stage is to intervene on the subject using AAC to improve the dynamic ability in music art learning. Steps of intervention through the use of AAC media are found in the Section subsections and research procedures described in the previous chapter.

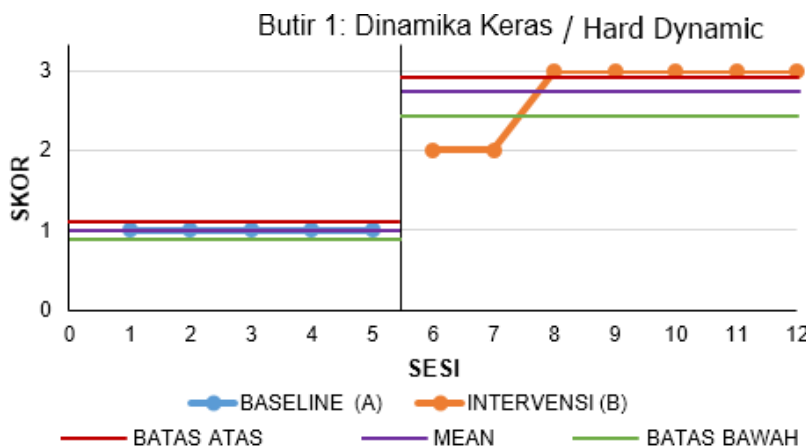
Provision of intervention condition (B) was conducted in seven sessions with duration of 10-15 minutes per meeting. The score obtained by the subject at this stage is shown in the following table.

No	Question	Session							Number
		1	2	3	4	5	6	7	
1.	Loud dynamics	2	2	3	3	3	3	3	19
2.	Soft dynamics	2	2	2	3	3	3	3	18
3.	Type of dynamics	2	2	2	3	2	3	3	17

4.	Suppressing with strong dynamics	2	2	3	3	3	3	3	19
5.	Suppress with soft dynamics	2	2	2	3	2	3	3	17
6.	Playing songs with loud dynamics	2	2	3	3	3	3	3	19
7.	Playing songs with soft dynamics	2	2	2	3	2	3	3	17

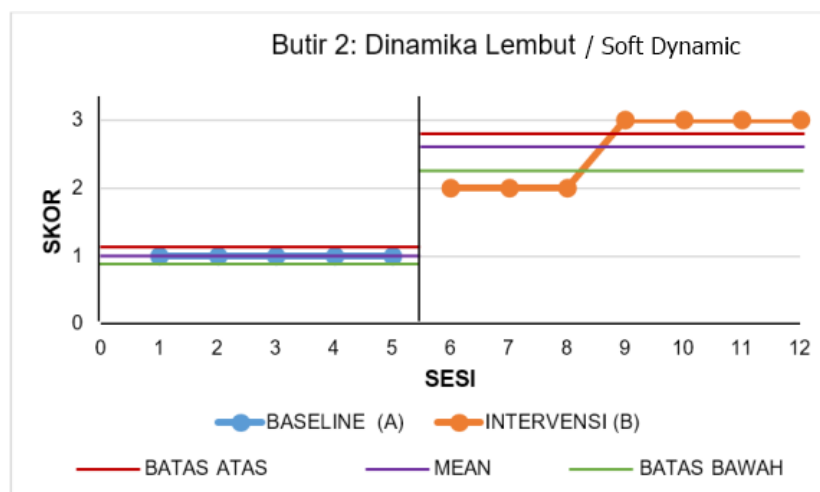
Tabel 2. Obtaining Score Stage of B Intervention

The result of intervention through the use of AAC media on the score table of the stage of intervention condition (B) shows that the dynamic ability in music art learning has increased. The improvement of the musical dynamics ability is seen in all instrument items, the subjects get a score of three which means the subjects are able to carry out the orders without any assistance. The steady increase occurs after the third and subsequent sessions on the instrument mentions, presses the keyboard keys, and plays songs with loud dynamics. As for the instruments mention the soft dynamics seen a steady increase in the fourth and subsequent sessions. Then the instrument distinguishes the type of dynamics, pressing the keyboard keys and playing the song with the soft dynamics also increased after the fourth session despite a decline in the fifth session and again increased in the sixth session.



Pic. 1. Hard Dynamic Stability Graphic

Based on the stage of baseline condition (A) and intervention (B), the researcher can conclude that AAC media is useful in improving dynamics ability in music art of autistic students. From the analysis, the researcher can decide to stop the research until the intervention condition phase because the data obtained is stable and on target.



Pic 2. Soft Dynamic Stability Graphic

Data analysis in this research use visual inspection analysis, that is analysis conducted by doing observation directly to data which have been shown in graph. The important components are analyzed in this way, ie conditions length, direction trend estimation, stability trends, data traces, stability and range levels, and level changes.

This research to be successful and has increased if the acquisition of scores that appear in each instrument the ability of musical dynamics has increased by comparing the acquisition of scores at each stage of the condition. The results of giving intervention conditions (B) through the use of AAC media show that the acquisition of musical dynamics ability scores has increased compared to the results of measurements and data collection at the baseline condition (A). Ability increases in all instruments.

The subjects received the highest total score in the fourth instrument (pressing with hard dynamics) which was 26 of the maximum score of 30, followed by the first instrument (hard dynamics) and sixth (playing songs with hard dynamics), which was 24 of the maximum score of 30, then the second instrument (dynamics soft) that is 23 of the maximum score of 30, and the smallest total score in the third instrument (type of dynamics), fifth (pressing with soft dynamics), and seventh (playing songs with soft dynamics) which is 22 of the maximum score of 30.

Based on the results of the research, the implication of this research is the use of AAC media can improve the ability of basic dynamics in the learning of music in autistic students. The ability of the music dynamics of autistic students will improve along with maximum effort. Maximum effort needs to be adjusted to the program and good cooperation from the teacher and the family. Without program adjustments and good cooperation, it is difficult to achieve dynamic capabilities in the learning of music in autistic students.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research data, it can be concluded that AAC Media is a visual tool in the form of symbols or images used to facilitate the learning activities of

autistic students. The use of visual strategy through AAC media can work better than the use of audio strategy, this is because autistic students have a good visual memory that has a visual oriented learning style. This media can be used as a learning medium for students who follow music learning activities of music.

The results of research on the ability of dynamics in music learning of autistic students with AAC media can be improved. This can be seen from the measurement and data collection of the dynamics of music ability at the stage of baseline condition (A) and stage of intervention condition (B). The results of measurement and data collection at each stage of the condition shows that the ability of dynamics in the learning of music art has increased. The subjects studied can mention, differentiate, and play two types of musical dynamics, namely the dynamics of hard and soft.

On the basis of theoretical studies, the implementation of research in the field, as well as the collection and calculation of data, then the ability of dynamics in music learning of autistic students can be increased through the use of AAC media

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